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To: Delta Protection Commission

From: Margit Aramburu, Executive Director

Subject: CALFED's Three Alternatives

Background:

The CALFED process to date included a series of background reports and studies which have now culminated in three alternatives to be addressed in additional technical studies and the Draft Environmental Impact Report. The three alternatives were discussed in a workshop on Tuesday, June 25, 1996.

Schedule:

The recent workshop is the last in Phase I. The Draft Environmental Impact Report (EIR) will be completed in October, 1997. Technical Studies, Preliminary Site and Operational Evaluations will be prepared during the next 18 months. The cost estimates and implementation strategies will be completed in March, 1998. The Final EIR will be complete in September 1998.

CALFED Staff Recommendations:

Note: Each alternative would include the same set of "core" actions (which have not changed and are not described in this memo) and four "common programs" related to: (1) water use efficiency; (2) water quality; (3) system integrity; and (4) ecosystem quality, described below. The three alternatives vary primarily in **conveyance** and **water storage**.

Note: The following language is extracted from the CALFED "Workshop 7 Information Packet".

I. **Existing System Conveyance.** Little or no modifications to the flow capacity of existing Delta channels.

* Continued use of existing Delta conveyance system.

* Study combinations of storage and conveyance.

* New storage could enhance existing conveyance.

* Refine storage size, location, and operations.

* Some shift in diversion timing may be possible.

* Avoid new habitat near pumps.

* May need additional water quality improvements.

* Improve key islands (levees) first.

* Need for higher levels of water use efficiency.

II. **Through Delta Conveyance.** Modifications to Delta channels to increase conveyance efficiency.

* Improved conveyance through Delta from north to south.

* Incorporate habitat.

* Optional conveyance configurations could include extensive land conversion to habitat uses.

* Refine (location of through Delta conveyance options) with studies.

* Study combinations of storage and conveyance.

* New storage could enhance through Delta conveyance.

* Refine storage size, location, and operations.

* Moderately shift Delta withdrawals to the fall through mid-winter.

* Continue exports from south Delta.

* Ecosystem restoration coordinated with other improvements.

* Water quality improvements.

* System integrity (levees) coordinated with other improvements.

* Water use efficiency improved.

III. **Dual Delta Conveyance.** Combination of through Delta conveyance and conveyance isolated from Delta channels.

* New conveyance improves reliability, flow conditions, water quality.

* Dual diversion and isolated conveyance protect water quality and fish.

* Potential to enhance Delta tributary flows.

* Some through Delta conveyance continues.

* Optional diversion points.

* Optional conveyance configurations.

* Study combinations of storage and conveyance.

* New storage could enhance dual Delta conveyance.

* Refine storage size, location and operations.

* Moderately shift Delta withdrawals to the fall through mid-winter.

* Re-evaluate standards (related to export ratios and salinity and requirements for carriage water) for protection of Bay-Delta ecosystem.

Common Programs:

1. Water Use Efficiency Measures.

   Various programs to reduce the demand for water and increase the reuse of water in the system, including agricultural and urban conservation, water recycling or reclamation, and remporary and long-term land conversion to other uses.

2. Water Quality Improvements.

   Program will focus on pollutant source control. Reducing the total pollutant load entering the Delta will provide benefits for all water users, including improved drinking water quality, reduced salt load for agricultural diversions, and improved water quality for the ecosystem, including reduced toxicity.

3. Levee System Integrity.

   Improvements to levees will be accomplished through development and implementation of the Delta Long-Term Levee Protection Plan, including a maintenance/stabilization element and a Special Projects element that collectively will address levee maintenance, stabilization improvements, subsidence reduction, an emergency levee management plan, beneficial reuse of dredged material and establishment of habitat corridors as mitigation for impacts from maintenance and stabilization. Uniform funding and guidance for levee maintenance and/or improvements to a set standard would be provided on a cost-shared basis for Delta islands. Funding for flood control and habitat improvements would be on a prioritization system to ensure long-term protection of Delta system functions providing the highest public benefit.

4. Ecosystem Restoration.

   The Bay-Delta system will never be returned to the conditions that existed prior to human disturbance, but Bay-Delta ecosystem functions will be restored. A healthy functioning ecosystem will include all the habitats necessary for survival of species that use the system, including freshwater and brackish tidal marsh, shallow water, riparian woodlands, and shaded riverine areas. These habitat will be large enough in area to support sustainable populations of Bay-Delta species, and interconnected to allow movement and percent isolation of plant or animal populations. Natural processes will be restored including, proper water flow to ensure appropriate salinity levels, meander zones that create necessary habitat and generate sediments that are important to the system, and nutrients that support the food web of the system.